Work Order ID 101071 *101071*

April-30-13 2:39:33 PM

Item ID: D3646-3 **Accept** *N900040100* **Setup Start** *NS1* **Stop** *NS2*

Revision ID:

Item Name: Arm

Start Date: 4/30/13 **Start Qty:** 6.00 *6* **Cust Item ID:**

Required Date: 4/30/13 **Req'd Qty:** 6.00 *6* **Customer:**

Reference:

Approvals: **Process Plan:** MLJ **Date:** 13-05-01 **Tooling:** ______ **Date:** ______ **Run Start** *NR1* **Stop** *NR2*

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr D3646	**Revision Nbr** Rev C								
100 *100* Brake NC Brake NC	NC BRAKE **Memo** 1-Punch to length as per Dwg D3646 & template DT8959	0.00 0.00				6	Ø		FF 13-09-23
110 *110* Small Fab Small Fab	Small Fab **Memo** 1-Deburr2- Bend as per dwg D3646	0.00 0.00				6	Ø		FF 13-09-23
120 *120* QC Quality Control	QC5- Inspect part completeness to step on W/O **Memo**	0.00 0.00	JAS 27 B923			6			

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**			
Part No. ____________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. ____________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	**General**			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ____________
☐ Ripples in Bend	☐ Drill Holes	☐ Offset		____________
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration		____________
☐ Turning Sequence	☐ Finish	☐ Out of Sequence		____________
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID **101071** *101071*

April-30-13 2:39:34 PM

Item ID: D3646-3 **Accept** *N900040100* **Setup** **Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Arm

Start Date: 4/30/13 **Start Qty:** 6.00 *6* **Cust Item ID:**

Required Date: 4/30/13 **Req'd Qty:** 6.00 *6* **Customer:**

Reference:

Run **Start** *NR1*

Stop *NR2*

Approvals: **Process Plan:** ______ **Date:** ______ **Tooling:** ______ **Date:** ______

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Powdercoat Powder Coating m117338	Black Sandtex(Ref:4.3.5.7) per QSI005 4.3 **Memo** START TIME: 7:45 OVEN TEMPERATURE: 320°F FINISH TIME: 8:15	0.00 0.00				6X ✓ M 13/04/26			
140 *140* QC Quality Control	QC3- Inspect Part Finish **Memo**	0.00 0.00				6 x ✓ All blocks			
150 *150* Packaging Packaging	Identify as per dwg & Stock Location:______ **Memo** S3327	0.00 0.00				13/4/26 (6)			DAS 32

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________	DISPOSITION	AGAINST DEPARTMENT/PROCESS
Part No. ____________	Rework ☐ Scrap ☐ Use-as-is ☐ Work Order Update ☐	Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐ ☐
NCR No. ____________		

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ________
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID 101071

April-30-13 2:39:34 PM

101071

Item ID: D3646-3

Revision ID:

Item Name: Arm

Accept *N900040100*

Setup **Start** *NS1*

Stop *NS2*

Start Date: 4/30/13 **Start Qty:** 6.00 *6*

Required Date: 4/30/13 **Req'd Qty:** 6.00 *6*

Cust Item ID:

Customer:

Reference:

Run **Start** *NR1*

Stop *NR2*

Approvals: **Process Plan:** ______ **Date:** ______ **Tooling:** ______ **Date:** ______

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160*	QC21- Final Inspection - Work Order Release	0.00				/	/	Rm 13/09/27.	
QC Quality Control	**Memo**	0.00							

13-09-27

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________________

Part No. ____________________

NCR No. ____________________

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	**General**			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset		
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration		
☐ Turning Sequence	☐ Finish	☐ Out of Sequence		
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Picklist Print

April-30-13 2:39:33 PM

Work Order ID: 101071

Parent Item: D3646-3

Parent Item Name: Arm

Start Date: 4/30/13 **Required Date:** 4/30/13

Start Qty: 6.00 **Required Qty:** 6.00

Comments: IPP Rev. A new issue 07.07.25 EC verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TR0.500W.035 304 RD Tube .500 x .035W		Purchased	No			110	f	335.4143	2.91	18.378947	FF	13-09-23	

Location	Loc Qty	Loc Code	
MAT017 125513	335.41433		18.378
120633	70.1979		
121848	29.92344		
123303	187.1315		
123449	48.16149		

DQA: ________ Date: ______________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

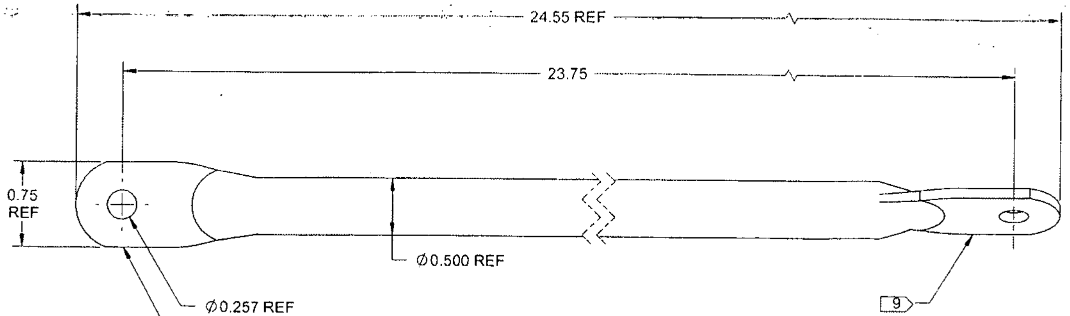
QA Closed: Date:

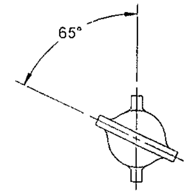
Work Order: ______	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**			
Part No. ______	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. ______	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

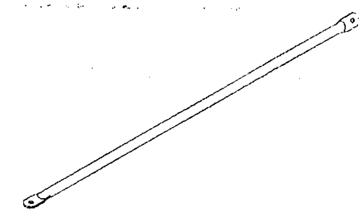
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

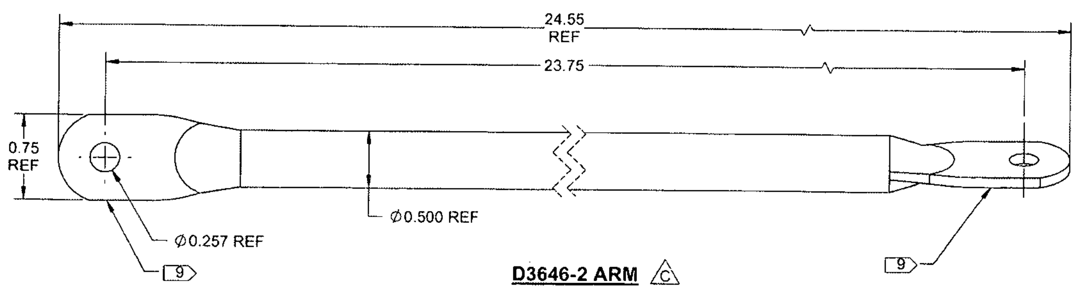
Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ______
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	______	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	______	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	______	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

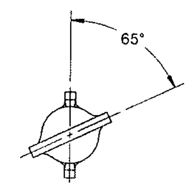


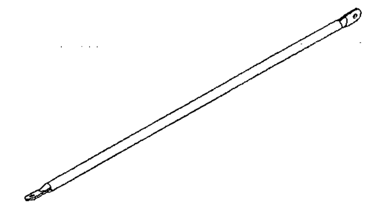




D3646-1 ARM







D3646-2 ARM (C)

RELEASED
2011-07-12

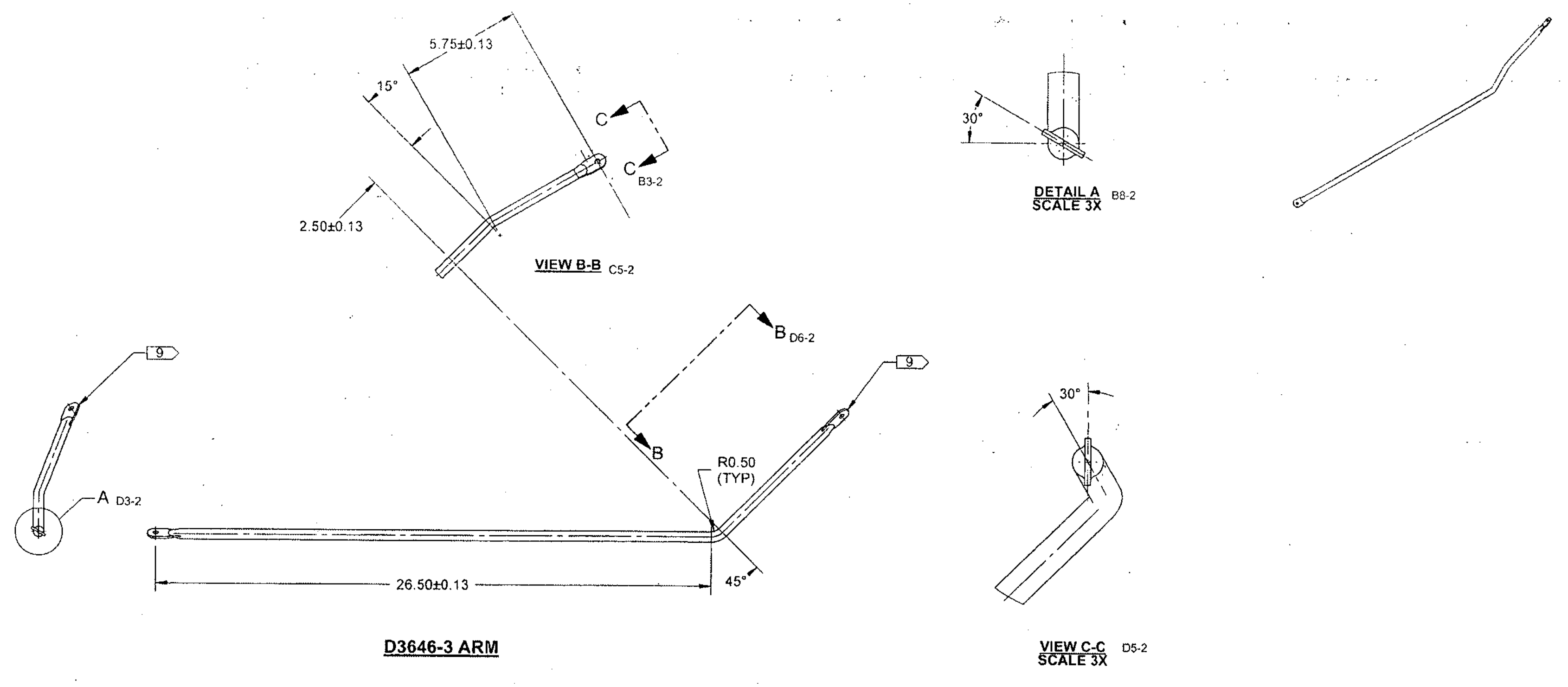
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 101031 MLS
13-05-01

NOTES:
1) MATERIAL: AISI 304/316 SS TUBE Ø0.500 X 0.035 WALL PER ASTM A213/A269 OR ASME A213
(REF DART SPEC. M304TR0500W.035)
2) FINISH: POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3646-X" AND B/N "BXXXXX"
PER DART QSI 044 6.1 USING REMOVABLE TAG
7) WEIGHT: 0.38 lbs
8) DELETED AT REV. C (C)
9) PUNCH BOTH ENDS PER SPEC CONTROL DWG D2727

REV.	DESCRIPTION	BY	DATE
C	ADD-2 & -4 FOR LHS INSTALLATION. DELETE REFERENCES TO TEMPLATES (NOTE 8) PER SHOP REQUEST.	AJS	11.07.11
B	REFORMAT DWG, ANGLE 65° WAS 45° (ZN C3-1), ADD IDENTIFICATION TAG (ZN A8-1, A8-2)	CP	09.06.04
A	NEW ISSUE	MB	07.06.06

DESIGN	MB	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	AJS	
CHECKED	[signature]	DRAWING NO. D3646 — REV. C — SHEET 1 OF 3
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE ARM — SCALE NTS
DE APPR.	[signature]	
DATE	11.07.11	

101071

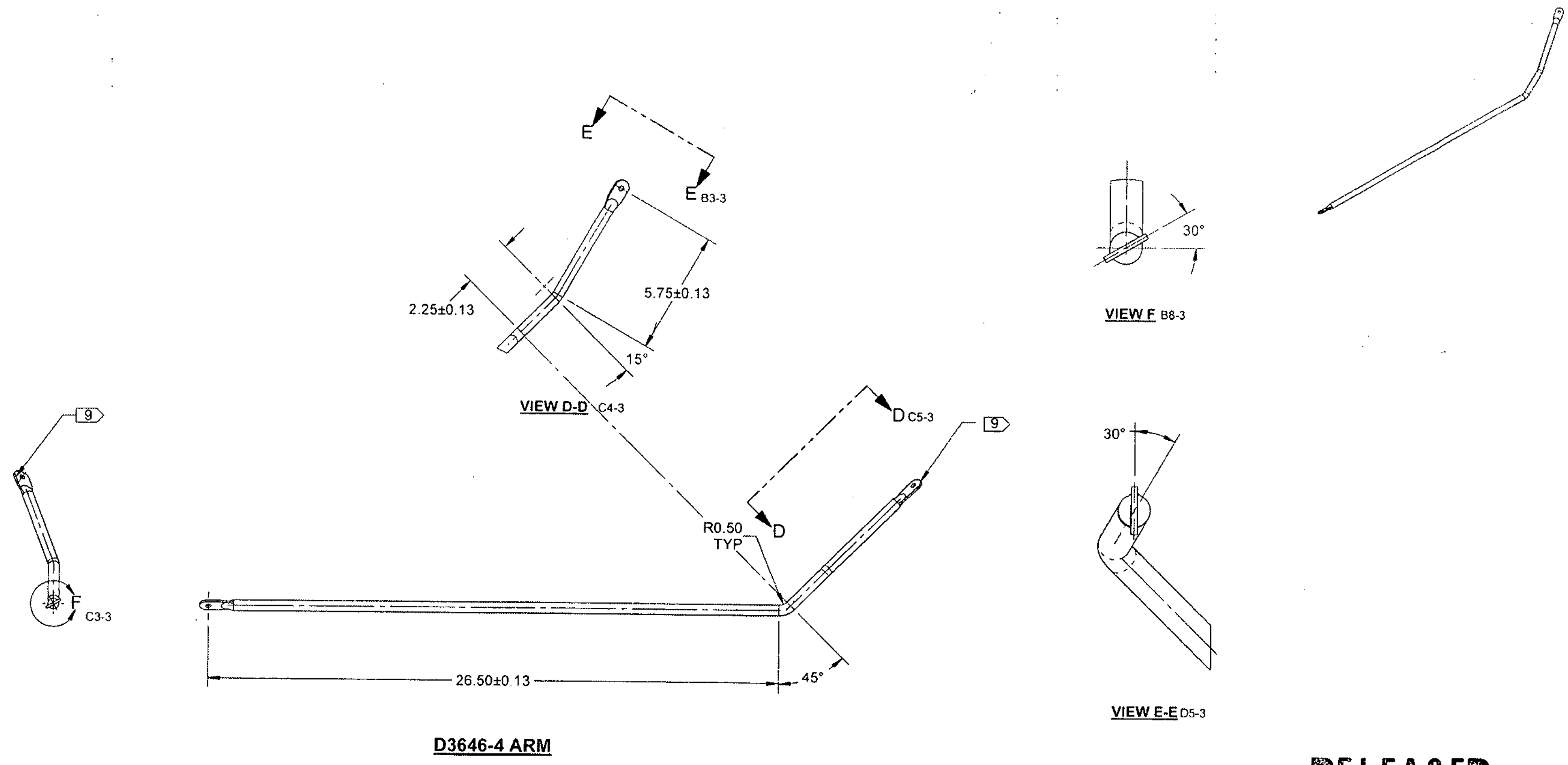


RELEASED 2011-07-13

NOTES:
1) MATERIAL: AISI 304/316 SS TUBE ∅0.500 X 0.035 WALL PER ASTM A213/A269 OR ASME A213
(REF DART SPEC. M304TR0500W.035)
2) FINISH: POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3646-3" AND B/N "BXXXXX"
PER DART QSI 044 6.1 USING REMOVABLE TAG
7) WEIGHT: 0.57 lbs
8) DELETED AT REV C. (C)
9) PUNCH BOTH ENDS PER SPEC CONTROL DWG D2727

DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	AJS	
CHECKED	[signature]	DRAWING NO. D3646 — REV. C — SHEET 2 OF 3
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE ARM — SCALE NTS
DE APPR.	[signature]	
DATE	11.07.11	

101071



RELEASED 2011-07-12

NOTES:
1) MATERIAL: AISI 304/316 SS TUBE ∅0.500 X 0.035 WALL PER ASTM A213/A269 OR ASME A213 (REF DART SPEC. M304TR0500W.035)
2) FINISH: POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3646-4" AND B/N "BXXXXX" PER DART QSI 044 6.1 USING REMOVABLE TAG
7) WEIGHT: 0.57 lbs
8) DELETED AT REV C. △C
9) PUNCH BOTH ENDS PER SPEC CONTROL DWG D2727

DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	AJS	
CHECKED	[signature]	DRAWING NO. D3646 — REV. C — SHEET 3 OF 3
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE: ARM — SCALE: NTS
DE APPR.	[signature]	
DATE	11.07.11	

DART AEROSPACE LTD

DART AEROSPACE

Description: Arm		Work Order: 101071
Inspection Drawing: C	Rev: C	Part Number: 3646-3

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
26.50	± 0.130	26.50	✓		Tape Mesu BB2-09	
5.75	+/-0.130	5.80	✓		" " BB2-09	
15°	+/- 1/2	15°	✓		Angle meter SPAB 04	
45°	+/- 1/2	45°	✓		Angle meter SPAB 04	
30°	+/- 1/2	30°	✓		Angle meter SPAB-04	
2.50	+/- .130	2.50	✓		Tape M BB2-09	

Measured by: FF	Checked By: [signature]	QC inspector: [signature]	Engineering Approval (*if necessary*):
Date 13-09-23	Date 13/09/23	Date 13 9 23	Date

H:\FORMS\Quality Assurance\approved QA\Inspection sheet revA